

DEPARTMENT of ENVIRONMENTAL SERVICES
Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: KEYSER POND	Lake Area (ha): 8.01
Town: HENNIKER	Maximum depth (m): 5.6
County: Merrimack	Mean depth (m): 3.0
River Basin: Merrimack	Volume (m ³): 244000
Latitude: 43°10'45" N	Relative depth: 1.7
Longitude: 71°45'52" W	Shore configuration: 1.10
Elevation (ft): 433	Areal water load (m/yr): 10.57
Shore length (m): 1100	Flushing rate (yr ⁻¹): 3.50
Watershed area (ha): 185.4	P retention coeff.: 0.54
% watershed ponded: 9.5	Lake type: natural

BIOLOGICAL:

		15 January 1998	25 June 1997
DOM. PHYTOPLANKTON (% TOTAL)	#1	DINOBRYON 75%	CHRYSOSPHAERELLA 40%
	#2	ASTERIONELLA 20%	SYNEDRA 25%
	#3		TINY PENNATE DIATOM 13%
PHYTOPLANKTON ABUNDANCE (units/mL)			
CHLOROPHYLL-A (µg/L)			8.44
DOM. ZOOPLANKTON (% TOTAL)	#1	KERATELLA 47%	KERATELLA 47%
	#2	CYCLOPOID COPEPOD 15%	KELICOTTIA 9%
	#3	NAUPLIUS LARVA 8%	
ROTIFERS/LITER		256	594
MICROCRUSTACEA/LITER		101	103
ZOOPLANKTON ABUNDANCE (#/L)		365	726
VASCULAR PLANT ABUNDANCE			Common
SECCHI DISK TRANSPARENCY (m)			2.5
BOTTOM DISSOLVED OXYGEN (mg/L)		6.3	0.3
BACTERIA (E. coli, #/100 ml)	#1		
	#2		
	#3		

SUMMER THERMAL STRATIFICATION:

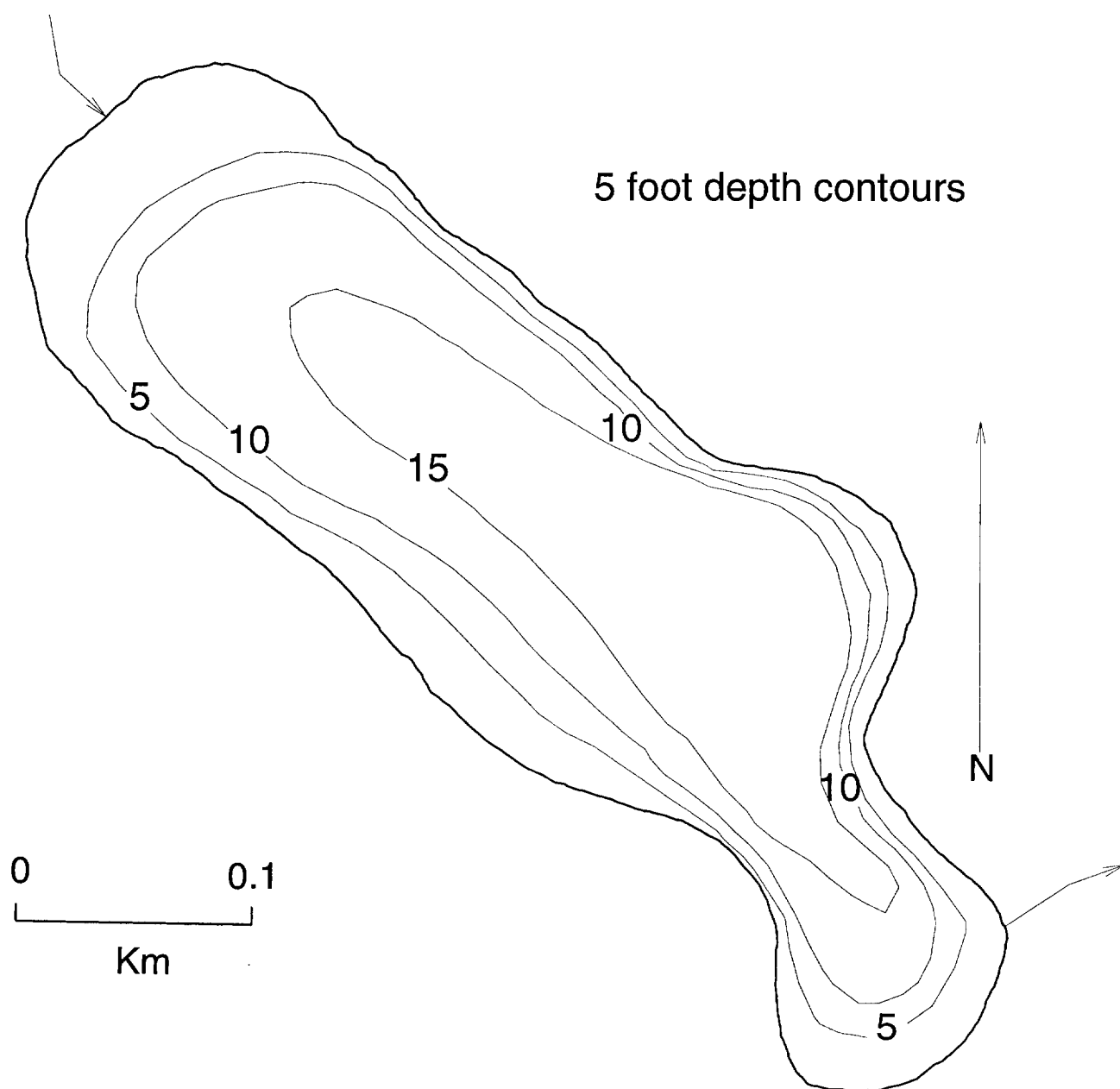
stratified

Depth of thermocline (m):	2.6
Hypolimnion volume (m ³):	1000
Anoxic volume (m ³):	2750

CHEMICAL:		Lake: KEYSER POND Town: HENNIKER			
	15 January 1998	25 June 1997			
DEPTH (m)	2.0	4.0	2.0		4.5
pH (units)	6.2	6.0	6.7		6.5
A.N.C. (Alkalinity)	7.2	7.5	7.0		7.2
NITRATE NITROGEN	< 0.05	< 0.05	< 0.05		< 0.05
TOTAL KJELDAHL NITROGEN	0.40	0.50	0.30		0.30
TOTAL PHOSPHORUS	0.013	0.010	0.015		0.024
CONDUCTIVITY (µmhos/cm)	101.0	105.7	101.0		100.0
APPARENT COLOR (cpu)	28	32	21		32
MAGNESIUM			1.00		
CALCIUM			4.6		
SODIUM			12.5		
POTASSIUM			1.20		
CHLORIDE	22	22	21		21
SULFATE	5	5	5		5
TN : TP	31	50	20		13
CALCITE SATURATION INDEX			3.1		
All results in mg/L unless indicated otherwise					
TROPHIC CLASSIFICATION: 1997					
	D.O.	S.D.	PLANT	CHL	TOTAL CLASS
	4	3	3	2	12 Meso.
COMMENTS: <ol style="list-style-type: none"> 1. This pond was previously surveyed in 1984 and was classified eutrophic at that time. A bloom of the blue-green alga <i>Anabaena</i> was present in 1984, resulting in a chlorophyll of 130 mg/m³ and a transparency of less than one foot. 2. A diagnostic study of Keyser Pond was conducted in 1986-87. It was borderline mesotrophic/eutrophic at that time (similar to 1997) with trophic data similar to the 1997 data. (Note: an algae bloom did occur again during the summer of 1998). 3. Conductivity, sodium and chloride were moderately elevated, suggesting some salt runoff from the nearby highway. 4. <i>Anabaena</i> was observed but in very low numbers in 1997. The zooplankton were abundant, demonstrating that the primary productivity was moving up the food chain. 					

Keyser Pond

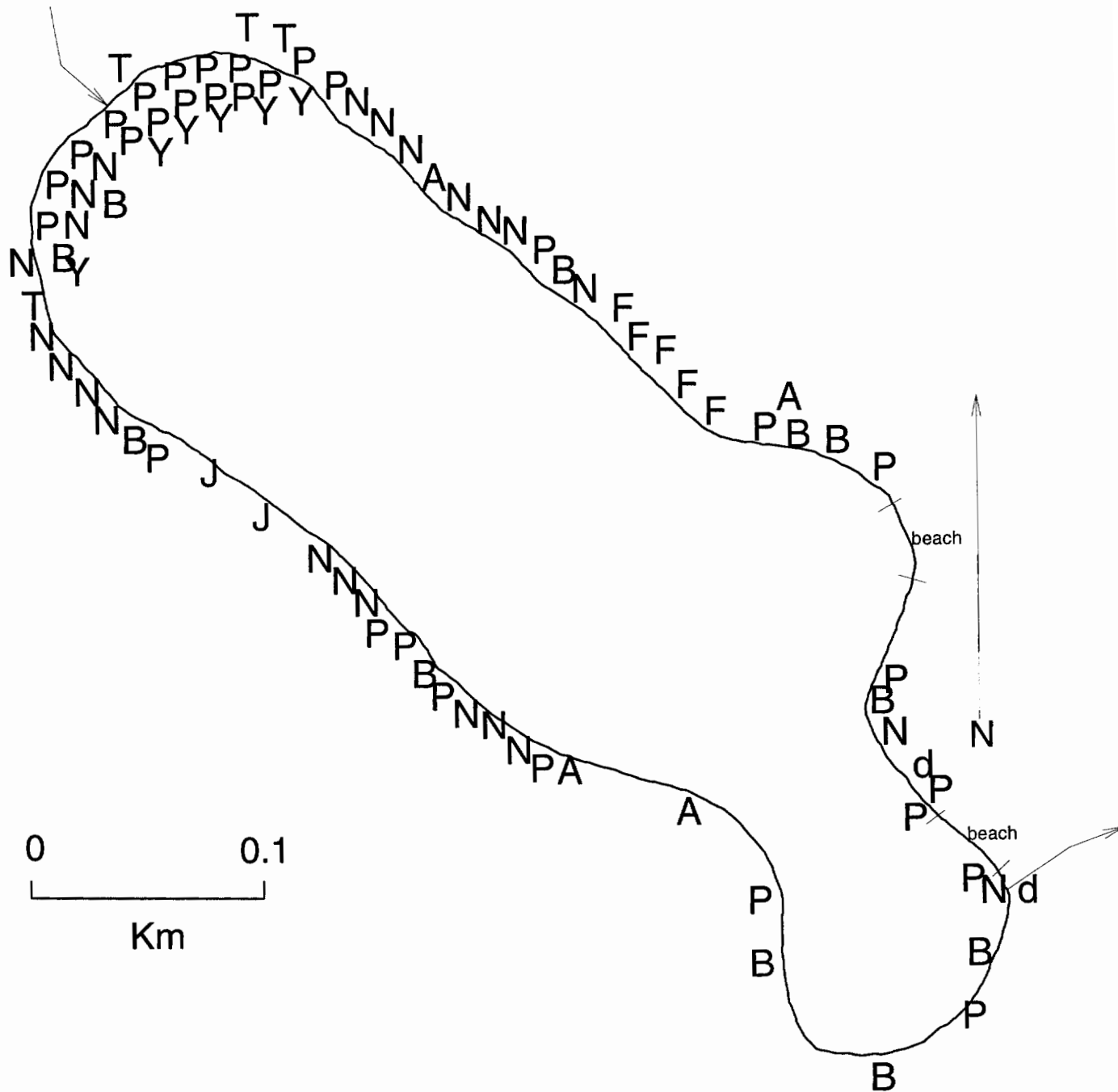
Henniker



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Keyser Pond

Henniker



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